

Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of the claims in the application.

Listing of the Claims:

Claims 1-16 (Cancelled)

17. (New) A charging device for charging of charging stock into a melting vessel, comprising:

a shaft having shaft walls held in a frame structure, a shaft floor, an upper inlet opening arranged to receive the charging stock, and a discharge opening arranged to discharge the charging stock through a side wall located in a lower portion of the shaft,

a pusher having a top surface, a bottom surface, an end surface transverse to a pushing direction, and two lateral surfaces parallel to the pushing direction, the lateral surfaces converging from the top surface to the bottom surface of the pusher, wherein the pusher is arranged and constructed to rest with its bottom surface disposed on an upper surface of the shaft floor, and

a first actuating device supported in or on the frame structure so as to be pivotable about a horizontal axis, the first actuating device being arranged and constructed to move the pusher between a first, retracted position, which exposes the shaft floor, and a second position, which is advanced toward the discharge opening, for batch transporting of charging stock present in the shaft toward and through the discharge opening.

18. (New) A charging device according to claim 17, wherein an upper boundary of the discharge opening of the shaft is formed by a horizontal, rotatably supported roller.

19. (New) A charging device according to claim 18, wherein the roller is supported so as to pivot about a horizontal axis.

20. (New) A charging device according to claim 19, further comprising a second actuating device arranged and constructed to downwardly push the roller.

21. (New) A charging device according to claim 20, wherein the roller comprises engaging elements distributed around its circumferential surface.
22. (New) A charging device according to claim 21, wherein the engaging elements are formed as engaging ribs.
23. (New) A charging device according to claim 22, wherein at least one of the first and second actuating devices is formed as a linear drive.
24. (New) A charging device according to claim 23, wherein the shaft walls define a rectangularly-shaped interior space within the shaft when viewed in horizontal cross section.
25. (New) A charging device according to claim 24, further comprising a projection surrounding the discharge opening of the shaft, the projection being arranged and constructed to connect to a charging opening of a melting vessel.
26. (New) A charging device according to claim 25, wherein the projection is designed in the form of a sleeve having an external contour adapted to an internal contour of the charging opening so as to be inserted into the charging opening.
27. (New) A charging device according to claim 26, wherein the charging device is designed to be portable.
28. (New) A charging device according to claim 27, further comprising at least one of an undercarriage or rollers arranged and constructed to permit displacement of the frame structure of the shaft.
29. (New) A charging device according to claim 28, wherein portions of at least one of the shaft and the pusher that are subject to severe mechanical stresses are formed from sections of steel billet arranged adjacent to each other and connected to each other to form a structural unit.

30. (New) A charging device according to claim 29, wherein the sections of steel billet are welded together along edges on at least one thermally and/or mechanically stressed side of the structural unit and wherein sections of steel rod are interleaved between the sections of steel billet.
31. (New) A charging device according to claim 20, wherein at least one of the first and second actuating devices is formed as a linear drive.
32. (New) A charging device according to claim 17, further comprising a projection surrounding the discharge opening of the shaft, the projection being arranged and constructed to connect to a charging opening of a melting vessel.
33. (New) A charging device according to claim 32, wherein the projection is designed in the form of a sleeve having an external contour adapted to an internal contour of the charging opening so as to be inserted into the charging opening.
34. (New) A charging device according to claim 17, further comprising at least one of an undercarriage or rollers arranged and constructed to permit displacement of the frame structure of the shaft.
35. (New) A charging device according to claim 17, wherein portions of at least one of the shaft and the pusher that are subject to severe mechanical stresses are formed from sections of steel billet arranged adjacent to each other and connected to each other to form a structural unit.
36. (New) A charging device according to claim 35, wherein the sections of steel billet are welded together along edges on at least one thermally and/or mechanically stressed side of the structural unit and wherein sections of steel rod are interleaved between the sections of steel billet.

37. (New) A charging stock preheater comprising:
the charging device according to claim 30,
a cover arranged and constructed to close the upper inlet opening of the shaft and
a gas outlet provided in an upper portion of the shaft, the gas outlet being arranged to
exhaust heated gas introduced into the shaft via the discharge opening for heating charging
stock present in the shaft.
38. (New) A charging stock preheater according to claim 37, wherein the frame structure
further comprises at least one spray water cooling device having spray nozzles directed
towards thermally stressed sections of the side walls of the shaft.
39. (New) A charging stock preheater comprising:
the charging device according to claim 17,
a cover arranged and constructed to close the upper inlet opening of the shaft and
a gas outlet provided in an upper portion of the shaft, the gas outlet being arranged to
exhaust heated gas introduced into the shaft via the discharge opening for heating charging
stock present in the shaft.
40. (New) A charging stock preheater according to claim 39, wherein the frame structure
further comprises at least one spray water cooling device having spray nozzles directed
towards thermally stressed sections of the side walls of the shaft.